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Applicant Initiated Interview Request Form

Application No.: 10/598,764   First Named Applicant: Weiss, Kenneth L.

Examiner: Ansari, Tahmina   Art Unit: 2624   Status of Application: Pending

Tentative Participants:

(1) William Morriss   (2) Tahmina Ansari

(3) Kenneth L. Weiss   (4) Andrew Johns

Proposed Date of Interview: 4/21/2010   Proposed Time: 1:30 pm   AM (PM)

Type of Interview Requested:

(1) [✓] Telephonic   (2) [ ] Personal   (3) [ ] Video Conference

Exhibit To Be Shown or Demonstrated: [ ] YES   [✓] NO
If yes, provide brief description: _____

Issues To Be Discussed

Issues (Rej., Obj., etc)	Claims/ Fig. #s	Prior Art	Discussed	Agreed	Not Agreed
(1) Discussion	New 1-7	Hipp, Long, Kang	[ ]	[ ]	[ ]
(2) _____	_____	Archip, Lai, Fichti	[ ]	[ ]	[ ]
(3) _____	_____	_____	[ ]	[ ]	[ ]
(4) _____	_____	_____	[ ]	[ ]	[ ]

[✓] Continuation Sheet Attached

Brief Description of Argument to be Presented:

See continuation sheet

An interview was conducted on the above-identified application on _____ .
NOTE: This form should be completed by applicant and submitted to the examiner in advance of the interview
(see MPEP § 713.01).
This application will not be delayed from issue because of applicant's failure to submit a written record of this
interview. Therefore, applicant is advised to file a statement of the substance of this interview (37 CFR 1.133(b)) as
soon as possible.

/William Morriss/
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Applicant/Applicant's Representative Signature   Examiner/SPE Signature
William Morriss
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Typed/Printed Name of Applicant or Representative
60,477
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Registration Number, if applicable

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Weiss, K.   : Conf. No: 9938

Serial No.   10/598,764   : Group Art Unit: 2624

Filed.   November 21, 2006   : Examiner: Ansari, Tahmina N.

For: AUTOMATED NEUROAXIS (BRAIN AND SPINE) IMAGING WITH ITERATIVE
             SCAN PRESCRIPTIONS, ANALYSIS, RECONSTRUCTIONS, LABELING,
             SURFACE LOCALIZATION AND GUIDED INTERVENTION

CONTINUATION SHEET

During the Interview scheduled for April 21 at 1:30 pm, I would like to discuss the whether an agreement as to patentability can be reached with respect to any of the proposed new claims set forth on the following pages.

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<u>PROPOSED NEW CLAIMS</u>

1.   (Proposed) An apparatus comprising:

(a)   a memory configured to receive a plurality of medical diagnostic images of a patient's neuro-axis;

(b)   a program stored in the memory and operatively configured to:

(i)   generate a composite midline sagittal image volume of the neuro-axis by combining two or more medical diagnostic images from the plurality of medical diagnostic images, wherein the generated composite midline sagittal image volume includes at least a portion of all interspaces and vertebrae between the patient's axis (C-2 vertebra) and sacrum; and,

(ii)   identify a plurality of spinal structures in the composite midline sagittal image volume by iteratively searching for a predefined search number of spinal structures between the patient's axis (C-2 vertebra) and sacrum, wherein the spinal structures are taken from the set of spinal structures consisting of:

(1)   intervertebral discs; and

(2)   vertebrae;

and wherein, if the spinal structures are vertebrae, the predefined search number is 22, otherwise, if the spinal structures are intervertebral discs, the predefined search number is 23; and

(iii)   determine if a set of predefined criteria are met and, if so, allowing the predefined search number to vary by one;

(c)   a processor in communication with the memory to perform the program.

2.   (Proposed) The apparatus of claim 1, wherein:

(a)   if identifying the plurality of spinal structures in the composite midline sagittal image volume comprises identifying the predefined search number of intervertebral discs, the program stored in memory is operatively configured to, after identifying the plurality of spinal structures:

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    (i)   based on labeling a cephalad disc from the plurality of intervertebral discs as C2-3, consecutively label the remaining discs from the plurality of intervertebral discs in a cranial-caudal fashion as C3-4 through L5-S1; and

    (ii)   provide vertebrae adjacent to the plurality of discs with corresponding labels: C2 through S1;

(b)   if identifying the plurality of spinal structures in the composite midline sagittal image volume comprises identifying the predefined search number of vertebrae, the program stored in memory is operatively configured to, after identifying the plurality of spinal structures:

    (i)   based on labeling a cephalad vertebra from the plurality of vertebrae as C2, consecutively label the remaining vertebrae from the plurality of vertebrae in a cranial-caudal fashion as C3 through S1; and

    (ii)   provide intervertebral discs adjacent to the plurality of vertebrae with corresponding labels C2-3 through L5-S1.

3.   (Proposed) The apparatus of claim 1, wherein:

    (a)   identifying the plurality of spinal structures in the composite midline sagittal image volume comprises, based on labeling a top spinal structure, iteratively search for the predefined search number of spinal structures in a cranial-caudal fashion until the predefined search number of spinal structures is identified; and

    (b)   the program stored in memory is operatively configured to, as each spinal structure is identified, labeling that spinal structure.

4.   (Proposed) The apparatus of claim 1, wherein:

    (a)   the composite midline sagittal image volume comprises the patient's head; and

    (b)   the program stored in memory is operatively configured to uniquely identify a plurality of head structures in the composite midline sagittal image volume.

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5.   (Proposed)   The apparatus of claim 1, wherein the program stored in memory is operatively configured to perform an automated image analysis at each disc and vertebral level in the patient's neuro-axis.

6.   (Proposed)   The apparatus of claim 1, wherein the program stored in memory is operatively configured to create an optimized reconstruction of a volumetric image dataset of the patient's neuro-axis based at least in part on identification of the plurality of spinal structures in the composite midline sagittal image volume.

7.   (Proposed) An apparatus comprising:

   (a)   a memory configured to receive a CT image data set, the CT image data set corresponding to a portion of a patient's body comprising a first type of tissue and a second type of tissue;

   (b)   a program stored in the memory and configured to create a medical image from the CT image data set using:

      (i)   a first reconstruction algorithm, wherein the first reconstruction algorithm is optimized for display of the first type of tissue; and

      (ii)   a second reconstruction algorithm, wherein the second reconstruction algorith is optimized for display of the second type of tissue;

   (c)   a processor in communication with the memory to perform the program; and

   (d)   a display in communication with the processor, wherein the program is configured to cause a composite medical image comprising a portion corresponding to the first type of tissue and a portion corresponding to the second type of tissue to be presented on the display, wherein the portion of the composite medical image corresponding to the first type of tissue is created using the first reconstruction algorithm, wherein the portion of the composite medical image corresponding to the second type of tissue is created using the second reconstruction algorithm.

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8.   (Proposed) A method comprising:

    (a)   applying a skin surface marking system to an external surface of a portion of a patient's body selected to be imaged, wherein the system comprises a localizer comprising

        (i)   a grid; and

        (ii)   a slice indicator positioned at a 45 degree angle relative to the grid;

    (b)   imaging the portion of the patient's body and the localizer to obtain a medical diagnostic image, wherein the medical diagnostic image comprises a cross section from the set of cross sections consisting of:

        (i)   an axial cross section; and

        (ii)   a sagittal cross section;

    (c)   determining a location comprising a unique axial location and a unique sagittal location in the medical diagnostic image; and

    (d)   correlating the determined location in the medical diagnostic image with a location in the patient's body based at least in part on visual observation of the grid from the localizer which had been applied to the external surface of the portion of the patient's body.